VAISALA

Turn On Your Bio-Engine

Your biogas plant is on
– but is it really on?

VAISALA

The Biogas Industry Has Unused Potential

Anaerobic digestion has proven to be the most efficient technology for fermenting biodegradable solid waste. Adding valuable by-products such as biogas and fertilizers to the equation, it is no wonder that the amount of biogas plants is rapidly growing. Biogas plants also have an important role in improving the nutrient cycle on the planet, as they help to keep nitrogen and phosphorus separate from Earth's water bodies. This, in turn, prevents eutrophication, which refers to water quality degradation and increased growth of algae.

Simply put, biogas production is a sensible technology. Yet, a lot of potential is still unused, and experts in the field are ambitiously developing bio-based industry processes. Possibilities exist to utilize new waste resources, increase the amount of side streams, and optimize the current biogas process.

Getting it Right with the Best Available Technology

How to optimize the process further? High-quality instrumentation that connects with the plant monitoring system and can be easily integrated with the process will help plant managers gain higher biogas quality and lower operating expenses.

To ensure proper functionality of the digester and to reduce air emissions, there are some overall measurement parameters[1] to think about:

- pH level & alkalinity of the digester feed
- operating temperature of the digester hydraulic and organic loading rates of the feed
- ammonia and volatile fatty acid concentration (digestate & within the digester)
- levels of the digester liquid and foam
- biogas quality, composition, quantity, and pressure

Vaisala is your #1 partner for ensuring biogas quality and composition as well as for protecting your CHP (combined heat and power) engine from breakdowns caused by moisture. Read further to see how.

1) COMMISSION IMPLEMENTING DECISION (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council.

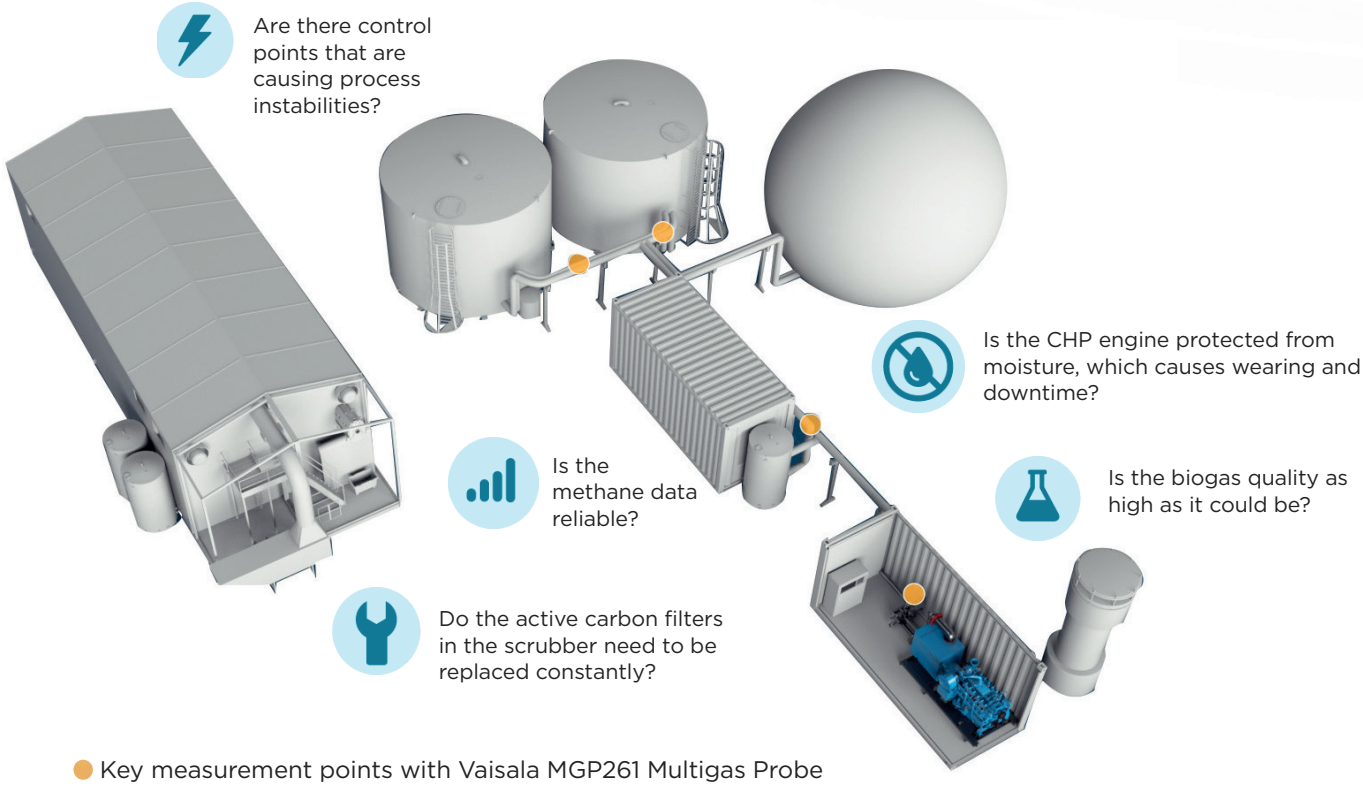
Biogas Production – Challenges and Opportunities

Understanding the significance of accurate data in a biogas plant is what defines success at the end. After implementing the basic digester monitoring setup, it is good to consider the following:

Why Optical Humidity Measurement?

When humidity measurement is performed in a flammable gas mixture and in the presence of corrosive chemicals, optical humidity measurement in the infrared (IR) wavelength range has many attractive properties.

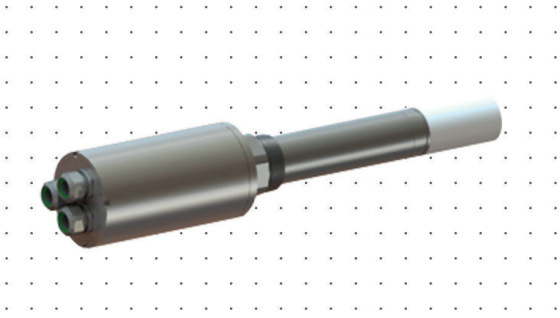
Visit **www.vaisala.com/biogas** to watch an animation of the benefits and register for online training.



● Key measurement points with Vaisala MGP261 Multigas Probe

Waste to Value with Vaisala

Vaisala's 3-in-1 measurement instrument, MGP261 is very easy to install and use. The key feature of Vaisala MGP261 is superior easiness. It is almost calibration-free, and there is no need for taking samples. MGP261 probe measures CH_4, CO_2 and H_2O. Auto-calibration reduces expensive calibration work significantly.



www.vaisala.com/MGP261

VAISALA

Need advice?

Our sales engineers bring hundreds of years of combined mechanical, chemical, electrical, and computer engineering experience to benefit your business. We are here to assist you with any questions related to biogas measurement and Vaisala products and applications. Don't hesitate to ask more!

VAISALA

www.vaisala.com

Please contact us at
www.vaisala.com/contactus

Scan the code for more information

Ref. B211787EN-A ©Vaisala 2019